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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,314	09/30/2003	Gary Leonard Skibinski	02AB153/YOD ALBR:0109	5340
7590 07/01/2005			EXAMINER	
Alexander M. Gerasimow Allen-Bradley Company, LLC 1201 South Second Street Milwaukee, WI 53204-2496			MAI, ANH T	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/675,314	<b>Applicant(s)</b> SKIBINSKI, GARY LEONARD	
	<b>Examiner</b> Anh T. Mai	<b>Art Unit</b> 2832	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8 and 11-21 is/are rejected.
- 7) ☒ Claim(s) 5, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-4, 8, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronning [6392519] in view of Khan et al. [521513].**

Ronning discloses an inductor comprising a modular enclosure having mounting surface 20 of conductive heat transfer [heat sink] extending generally in a plane, inductor coil 16 on the mounting surface; leads 16, 18 electrically coupled to the inductor coil and accessible from the modular enclosure [figure 1]. Ronning discloses the claimed invention except for the coil being wound about the central axis parallel to the mounting surface. Khan discloses the winding 18 parallel to the mounting surface of heat sink 10. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to place the coil as taught by Khan to Ronning. The motivation would have been to provide a different configuration of winding arrangement of transformer for the maximize heat transfer. Therefore, it would have been obvious to combine Khan with Ronning.

With respect to claim 3, the shape of Ronning in view of Khan coil is circular/rectangular, therefore it would have been obvious to have the cross section of oblong for the purpose of facilitate the size of the inductor module. MPEP 2144.04 Changes in shape *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)

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With respect to claim 4, the mounting surface of Ronning having greater surface area than that of the side surfaces [see figure 2].

With respect to claim 8, the leads 16 and 18 are opposite from each other [figure 2].

With respect to claim 11, Ronning discloses a capacitor can be placed on the heat sink [col 3, lines 25-27].

With respect to claim 12, Khan discloses second inductor 50 in figure 7.

With respect to claims 13-16, Ronning and Khan disclose the claimed invention except for three modular inductors disposed in the closure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to put three inductors in the enclosure for three phase function, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. MPEP 2144.04. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)

3. **Claims 6-7 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Ronning in view of Khan as applied to claim 1 above, and further in view of Liu et al. [2004/0239467].

Ronning and Khan disclose the claimed invention except for the terminal being a plug-in type. Liu discloses the plug-in terminals 225-1 to 225-6 [figures 3D-E; para 0019]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide plug-in type terminals as taught by Liu to Ronning in view of Khan. The motivation would have been to facilitate the insertion into pin holes. Therefore, it would have been obvious to combine Liu with Ronning in view of Khan.

With respect to claim 7, figure 1A of Liu shows the terminals including pads 20, 22 [para 005].

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4. **Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronning [6392519] in view of Khan et al. and further in view of Gilbreth et al. [6487096].**

Ronning discloses an inductor comprising a modular enclosure having mounting surface 20 of conductive heat transfer [heat sink] extending generally in a plane, inductor coil 16 on the mounting surface; leads 16, 18 electrically coupled to the inductor coil and accessible from the modular enclosure [figure 1]. Ronning discloses the claimed invention except for the coil being wound about the central axis parallel to the mounting surface. Khan discloses the winding 18 parallel to the mounting surface of heat sink 10. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to place the coil as taught by Khan to Ronning. The motivation would have been to provide a different configuration of winding arrangement of transformer for the maximize heat transfer. Therefore, it would have been obvious to combine Khan with Ronning.

Ronning and Khan disclose the invention as claimed except for the connection of the inductor with power converter circuit and a source of electrical power. Gilbreth discloses an inductor 102 interconnected between electrical power source 100 and converter 96 [figure 5] to provide for other power output of three phase 400VAC and single phase 480VAC [column 5; lines 37-40]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to connect the inductor of Ronning in view of Khan to the electrical power and converter as taught by Gilbreth for the purpose mentioned above. Therefore, it would have been obvious to combine Gilbreth with Ronning in view of Khan.

With respect to claim 21, Ronning and Khan disclose the claimed invention except for three modular inductors disposed in the closure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to put three inductors in the

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enclosure for three phase function, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. MPEP 2144.04. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)

#### *Allowable Subject Matter*

5. Claims 5, 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 recites inter alia, *the modular enclosure is configured for mounting adjacent to similar modular inductors in a multiphase inductor assembly.*

Claim 9 recites inter alia, *a current sensor disposed within the enclosure and configured to sense current through the inductor.*

The references of record do not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

#### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Anh Mai', with a long, sweeping horizontal stroke extending to the right.

**ANH MAI  
PRIMARY EXAMINER**